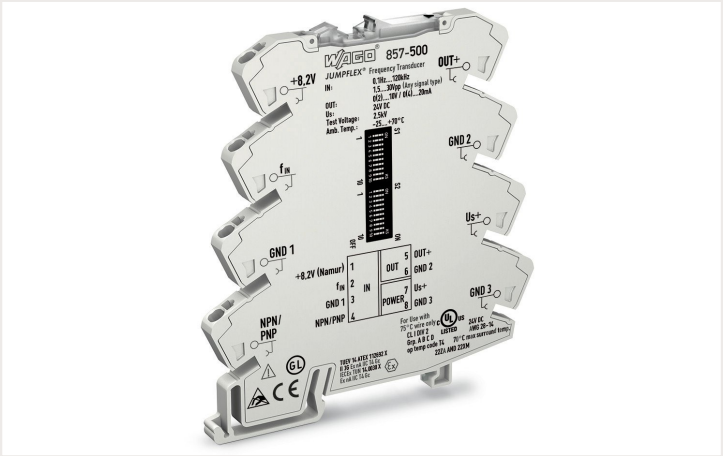
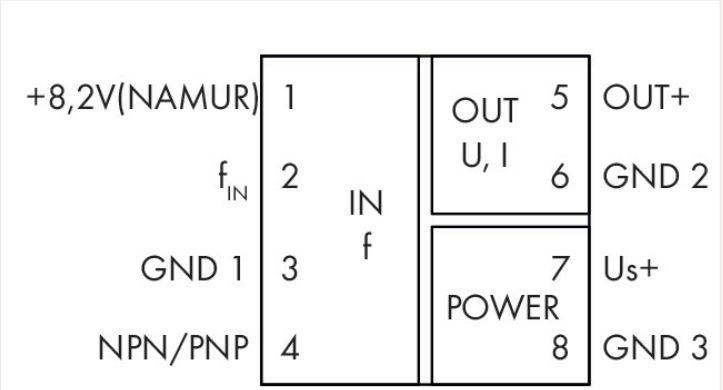
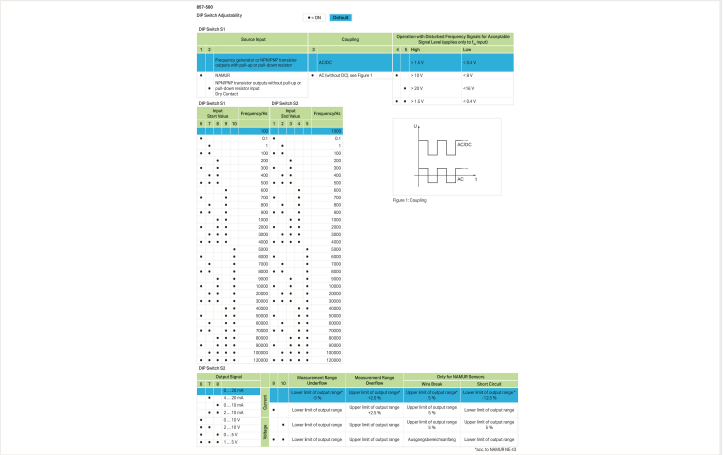
Data sheet | Item number: 857-500

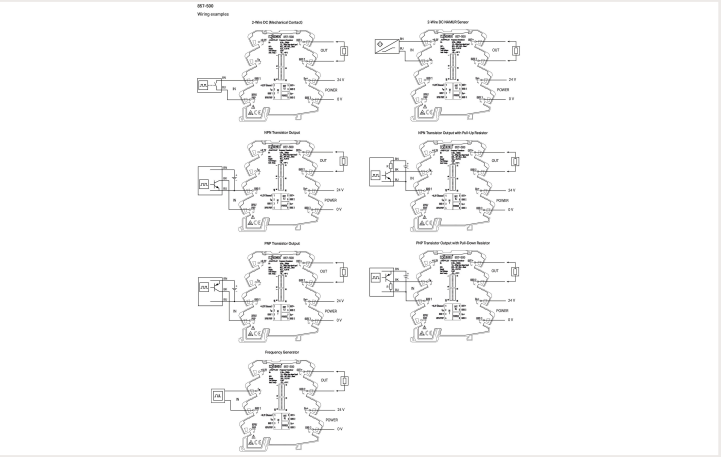
Frequency signal conditioner; Current and voltage output signal; Configuration via software; Supply voltage: 24 VDC; 6 mm module width

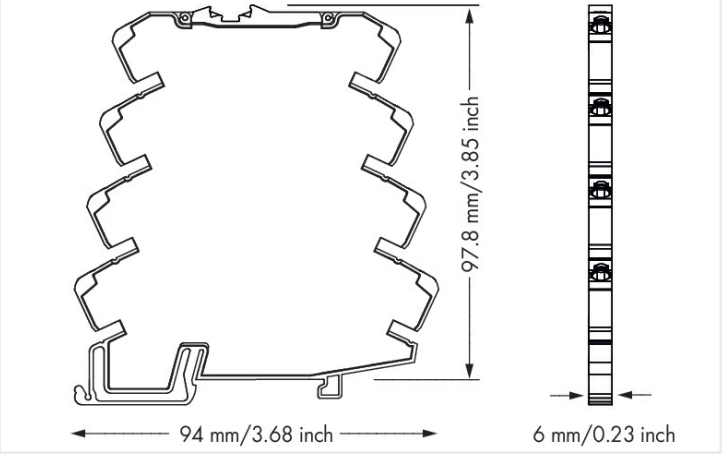
https://www.wago.com/857-500











Dimensions in mm

Short description:

WAGO's frequency signal conditioner collects 0.1–120 kHz signals from NAMUR, NPN or PNP sensors and converts them into a standard analog signal.

Features:

- PC configuration interface
- Signal acquisition from NAMUR, NPN or PNP sensors
- Calibrated measurement range switching
- Safe 3-way isolation with 2.5 kV test voltage per EN 61140

Technical data

Configuration

Configuration options	DIP switch WAGO Interface Configuration Software WAGO Interface Configuration App

Input

Input signal type	Frequency generators NAMUR sensors NPN/PNP transistor outputs Mechanical contact (dry contact)

Input – sensor type 1

Sensor type 1	Frequency generator NPN/PNP transistor output with pull-up or pull-down resistor
Measurement range (frequency) 1	0.1 Hz … 120 kHz
Measurement span 1 (min.)	10 Hz
Signal level	1.5 V; 10 V; 20 V (switchable)
Signal form	any
Coupling	AC/DC (adjustable; AC above 10 Hz)

Input – sensor type 2

Sensor type 2	NAMUR sensor (DIN EN 50227)
Measurement range (frequency) 2	0.1 Hz … 1 kHz
Measurement span 2 (min.)	10 Hz
Hysteresis	0.45 mA

Input – sensor type 3

Sensor type 3	NPN/PNP transistor output without pull-up or pull-down resistor Mechanical contact (dry contact)
Measurement range (frequency) 3	0.1 Hz … 20 kHz
Measurement span 3 (min.)	100 Hz
PNP switching voltage	≥ 7.5 V (+ residual voltage U_{CE} sat)

Output – analog

Output signal type	Current Voltage
Output signal (voltage)	0 … 5 V; 1 … 5 V; 0 … 10 V; 2 … 10 V
Output signal (current)	0 … 10 mA; 2 … 10 mA; 0 … 20 mA; 4 … 20 mA
Load impedance (voltage output)	≥ 2 kΩ
Load impedance (current output)	≤ 600 Ω

Signal processing

Conversion time	Peak-time measurement method (

Measurement error

Transmission error (typ.)	≤ 0.1 % of upper-range value
Temperature coefficient	≤ 0.01 %/K

Supply

Power supply type	24 VDC
Nominal supply voltage U_S	DC 24 V
Supply voltage range	±30 %
Current consumption at nominal supply voltage	≤ 40 mA

Safety and protection

Test voltage

Test voltage (input/output/supply)	AC 2.5 kV; 50 Hz; 1 min

Connection data

Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG

Continued on next page

Physical data

Width	6 mm / 0.236 inches
Height	94 mm / 3.701 inches
Depth from upper-edge of DIN-rail	97.8 mm / 3.85 inches

Mechanical data

Mounting type	DIN-35 rail

Material data

Fire load	0.405 MJ
Weight	36.2 g

Environmental requirements

Ambient temperature (operation at U_N)	-25 … 70 °C
Surrounding air temperature (storage)	-40 … +85 °C
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m

Standards and specifications

Conformity marking	CE
EMC immunity to interference	EN 61000-6-2
EMC emission of interference	EN 61000-6-4
Standards/specifications	EN 61373

Commercial data

Product Group	6 (Interface Electronics)
eCl@ss 10.0	27-21-01-28
eCl@ss 9.0	27-21-01-28
ETIM 8.0	EC002918
ETIM 7.0	EC002918
PU (SPU)	1 Stück
Packaging type	Bag
Country of origin VKOrg Germany	DE
GTIN	4050821226741
Customs tariff number VKOrg Germany	85437090300

Approvals and certificates

General approvals

Approval	Standard	Certificate name
EAC Brjansker Zertifizierungs-stelle	TP TC 020/2011	EAC_Certificate_RU_C-DE.AM02.B.00115_19
UL UL International Nether-lands B.V. (ORDINARY LO-CATIONS)	UL 508	E175199 Sec.4

Approvals for marine applications

Approval	Standard	Certificate name
DNV GL Det Norske Veritas, Ger-manischer Lloyd	-	TAA00001D1
PRS Polski Rejestr Statków	-	TE/2186/880590/18

Continued on next page

Approvals for hazardous areas

Approval	Standard	Certificate name
ATEX TUEV Nord Cert GmbH	EN 60079-0	TÜV_14_ATEX_112692_X (II 3 G Ex nA IIC T4 Gc)
CCCEx CQST/CNEx	CNCA-C23-01	2020312310000210 (Ex nA IIC T4 Gc)
EAC Brjansker Zertifizierungs-stelle	TP TC 012/2011	EAC RU C-DE.AM02. B.00144/19 (2 Ex nA IIC T4 Gc X)
IECEx TUEV Nord Cert GmbH	IEC 60079-0	IECEX_TUN_14.0030_X
UL Underwriters Laboratories Inc. (HAZARDOUS LOCA-TIONS)	ANSI/ISA 12.12.01	E198726

Downloads

Environmental Product Compliance

Compliance Search

Environmental Product Compliance 857-500

Documentation

Bid Text

857-500	09.01.2019	docx 18.77 KB

Instruction Leaflet

Messumformer und Trennverstärker		pdf 2640.84 KB

CAD/CAE-Data

CAD data

2D/3D Models 857-500

CAE data

EPLAN Data Portal 857-500

WSCAD Universe 857-500

ZUKEN Portal 857-500

 Continued on next page

Engineering-Software

Software for Interface-Products			
WAGO Interface Configuration Software G2 FULL	1.0.8.6 20.01.2022	exe 111289.67 KB	
WAGO Interface Configuration Software G2 SMALL	1.0.8.6 20.01.2022	exe 29307.84 KB	

1 Compatible products

1.1 Optional accessories

1.1.1 Cables and connectors

1.1.1.1 Communication cable

Item no.: 750-923
Configuration cable; USB connector; Length: 2.5 m

Item no.: 750-923/000-001
Configuration cable; USB connector; Length: 5 m

1.1.2 Communication

1.1.2.1 Bluetooth

Item no.: 750-921
Bluetooth® Adapter

1.1.3 Installation

1.1.3.1 Mounting accessories

Item no.: 249-117
Screwless end stop; 10 mm wide; for DIN-rail 35 x 15 and 35 x 7.5; gray

Item no.: 249-197
Screwless end stop; 14 mm wide; for DIN-rail 35 x 15 and 35 x 7.5; gray

Item no.: 249-116
Screwless end stop; 6 mm wide; for DIN-rail 35 x 15 and 35 x 7.5; gray

1.1.4 Interface module

1.1.4.1 Interface adapters

Item no.: 857-980
Interface adapter; 16-pole; analog

1.1.5 Jumper

1.1.5.1 Jumper

Item no.: 281-482
Jumper; 2-way; insulated; gray

Item no.: 859-410/000-006
Jumper; for jumper slot; 10-way; insulated; blue

Item no.: 859-410
Jumper; for jumper slot; 10-way; insulated; light gray

Item no.: 859-410/000-005
Jumper; for jumper slot; 10-way; insulated; red

Item no.: 859-410/000-029
Jumper; for jumper slot; 10-way; insulated; yellow

Item no.: 859-402/000-006
Jumper; for jumper slot; 2-way; insulated; blue

Item no.: 859-402
Jumper; for jumper slot; 2-way; insulated; light gray

Item no.: 859-402/000-005
Jumper; for jumper slot; 2-way; insulated; red

Item no.: 859-402/000-029
Jumper; for jumper slot; 2-way; insulated; yellow

Item no.: 859-403/000-006
Jumper; for jumper slot; 3-way; insulated; blue

Item no.: 859-403
Jumper; for jumper slot; 3-way; insulated; light gray

Item no.: 859-403/000-005
Jumper; for jumper slot; 3-way; insulated; red

Item no.: 859-403/000-029
Jumper; for jumper slot; 3-way; insulated; yellow

Item no.: 859-404/000-006
Jumper; for jumper slot; 4-way; insulated; blue

Item no.: 859-404
Jumper; for jumper slot; 4-way; insulated; light gray

Item no.: 859-404/000-005
Jumper; for jumper slot; 4-way; insulated; red

Item no.: 859-404/000-029
Jumper; for jumper slot; 4-way; insulated; yellow

Item no.: 859-405/000-006
Jumper; for jumper slot; 5-way; insulated; blue

Item no.: 859-405
Jumper; for jumper slot; 5-way; insulated; light gray

Item no.: 859-405/000-005
Jumper; for jumper slot; 5-way; insulated; red

Item no.: 859-405/000-029
Jumper; for jumper slot; 5-way; insulated; yellow

Item no.: 859-406/000-006
Jumper; for jumper slot; 6-way; insulated; blue

Item no.: 859-406
Jumper; for jumper slot; 6-way; insulated; light gray

Item no.: 859-406/000-005
Jumper; for jumper slot; 6-way; insulated; red

Item no.: 859-406/000-029
Jumper; for jumper slot; 6-way; insulated; signal yellow

Item no.: 859-407/000-006
Jumper; for jumper slot; 7-way; insulated; blue

Item no.: 859-407
Jumper; for jumper slot; 7-way; insulated; light gray

Item no.: 859-407/000-005
Jumper; for jumper slot; 7-way; insulated; red

Item no.: 859-407/000-029
Jumper; for jumper slot; 7-way; insulated; yellow

Item no.: 859-408/000-006
Jumper; for jumper slot; 8-way; insulated; blue

Item no.: 859-408
Jumper; for jumper slot; 8-way; insulated; light gray

Item no.: 859-408/000-005
Jumper; for jumper slot; 8-way; insulated; red

Item no.: 859-408/000-029
Jumper; for jumper slot; 8-way; insulated; yellow

Item no.: 859-409/000-006
Jumper; for jumper slot; 9-way; insulated; blue

Item no.: 859-409
Jumper; for jumper slot; 9-way; insulated; light gray

Item no.: 859-409/000-005
Jumper; for jumper slot; 9-way; insulated; red

Item no.: 859-409/000-029
Jumper; for jumper slot; 9-way; insulated; yellow

1.1.6 Marking

1.1.6.1 Marker

Item no.: 793-5501
WMB marking card; as card; for terminal block width 5 - 17.5 mm; stretchable 5 - 5.2 mm; plain; snap-on type; white

Item no.: 793-502
WMB marking card; as card; MARKED; 1 ... 10 (10x); not stretchable; Horizontal marking; snap-on type; white

Item no.: 793-566
WMB marking card; as card; MARKED; 1 ... 50 (2x); not stretchable; Horizontal marking; snap-on type; white

Item no.: 793-503
WMB marking card; as card; MARKED; 11 ... 20 (10x); not stretchable; Horizontal marking; snap-on type; white

Continued on next page

1.1.6.1 Marker

Item no.: 793-504
WMB marking card; as card; MARKED; 21 ... 30 (10x); not stretchable; Horizontal marking; snap-on type; white

Item no.: 793-505
WMB marking card; as card; MARKED; 31 ... 40 (10x); not stretchable; Horizontal marking; snap-on type; white

Item no.: 793-506
WMB marking card; as card; MARKED; 41 ... 50 (10x); not stretchable; Horizontal marking; snap-on type; white

Item no.: 793-501
WMB marking card; as card; not stretchable; plain; snap-on type; white

Item no.: 2009-115
WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; white

1.1.6.2 Marking strip

Item no.: 2009-110
Marking strips; for Smart Printer; on reel; not stretchable; plain; snap-on type; white

1.1.7 Power supply

1.1.7.1 Power supply unit

Item no.: 787-2852
Switched-mode power supply; 1-phase; 24 VDC output voltage; 1 A output current

1.1.8 Terminal blocks

1.1.8.1 Supply module

Item no.: 857-979
Supply and through module

1.1.8.2 Through terminal block

Item no.: 857-979
Supply and through module

1.1.9 Tool

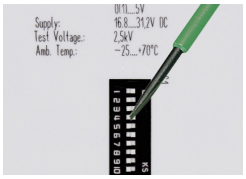
1.1.9.1 Operating tool

Item no.: 210-720
Operating tool; Blade: 3.5 x 0.5 mm; with a partially insulated shaft; multicoloured

Continued on next page

Installation notes

Configuring

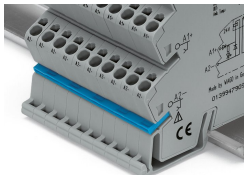


Configuration via DIP switch

Configuration via WAGO Interface Configuration Software

Configuration via WAGO Interface Configuration App

Commoning



Commoning, not discrete wiring – Same outline allows use of a single in-line, push-in jumper.